

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK**

CARNEGIE INSTITUTION OF
WASHINGTON and M7D CORPORATION,

Plaintiffs,

v.

FENIX DIAMONDS LLC,

Defendant.

**CONTAINS HIGHLY CONFIDENTIAL
INFORMATION – REDACTED
VERSION FILED VIA ECF**

Case No. 1:20-cv-00200-JSR

Hon. Jed S. Rakoff

MEMORANDUM OF LAW IN OPPOSITION TO PLAINTIFFS' MOTION TO DISMISS

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Patents and Patent Applications

'078 Patent	U.S. Patent No. 6,858,078
'189 Patent	U.S. Patent No. RE41,189
'610 Patent	U.S. Patent No. 6,811,610
'171 Application	U.S. Patent Application No. 10/889,171
'266 Application	U.S. Patent Application No. 10/161,266
'529 Application	U.S. Patent Application No. 12/362,529

I. INTRODUCTION

Plaintiff Carnegie Institution of Washington (“Carnegie”) “corrected” the inventorship for the prior ’610 Patent through a reissue application that led to the now asserted ’189 Patent. The two patents are identical except for a change in inventorship.¹ In its reissue application, Carnegie cancelled one inventor, Dr. Robert Frushour, and added three new inventors, Drs. Russell Hemley, Ho-Kwang Mao, and Chih-Shiue Yan. This change in inventorship, and the manner by which Carnegie effected it, is central to the inequitable conduct allegations at issue.

Defendant Fenix Diamonds LLC (“Fenix”) specifically alleges that Dr. Frushour is an inventor of the claimed subject matter. *See* Am. Defenses ¶¶ 7–8, 12–13, 22, ECF No. 57. And, Fenix alleges that Carnegie improperly changed inventorship only through a materially false declaration averring that Dr. Frushour was not an inventor and that Drs. Hemley, Mao, and Yan were inventors. *See id.* ¶¶ 20, 30–31. The deliberate improper exclusion of Dr. Frushour as an inventor was an act of inequitable conduct. *See Frank’s Casing Crew & Rental Tools, Inc. v. PMR Techs., Ltd.*, 292 F.3d 1363, 1376–77 (Fed. Cir. 2002).

Plaintiffs’ motion acknowledges these key allegations, i.e., “that the original inventorship was correct and Carnegie falsely declared that there was an error,” but it challenges their “factual underpinning.” *See* Pls.’ Mem at 20, ECF No. 68. Carnegie apparently recognizes that it committed inequitable conduct if it submitted a materially false oath to correct inventorship, so it argues instead that the oath was not false. *See id.* at 19 (“[T]he pleaded facts cannot yield an inference that the original inventorship was right.”). The record, however, contains more than sufficient evidence to *establish* Dr. Frushour’s contribution to the invention. He has a doctorate

¹ Both patents claim the identical method of annealing lab-grown CVD diamonds through a high-pressure high-temperature (“HPHT”) process. As explained below, Fenix disputes that the claimed subject matter is actually an “invention.” Rather, the claimed method was already known for natural and synthetic diamonds, and the asserted claims are either anticipated or obvious.

in high-pressure physics, he has earned more than 20 patents on HPHT techniques relating to diamonds, he founded a company for this purpose, he participated in the experiments that led to the '610 patent, his company maintained notebooks that corroborate this work, he actually wrote the application that led to the '610 Patent, and he stated twice under oath that he invented the subject matter of the '610 Patent. This is not a summary judgment motion, however. Rather, the starting point for this motion to dismiss is to assume as true the allegation that Dr. Frushour *is* an inventor based on the facts as pleaded. And, with this fact assumed to be true, Carnegie acted with an intent to deceive by falsely stating the opposite. There is no room for Carnegie to argue that it acted without deceptive intent when it submitted a false statement regarding inventorship.

The false oath also cannot be dismissed as mistaken but made in good faith. Carnegie was on notice that the original inventorship, including Dr. Frushour, was correct. *See* Am. Defenses at ¶¶ 7, 15, 25, 34. At a minimum, Carnegie knew there was a dispute on this point. It therefore should not have certified under oath that Dr. Frushour was *not* an inventor when it knew or had reason to believe that he was.² Carnegie dismissively asserts that it had no obligation to investigate Dr. Frushour's contribution to the invention simply because it owned the '610 Patent. Pls.' Mem. at 16–17. This is not the law. The patent statutes do not immunize a false statement made under 18 U.S.C. § 1001, such as that submitted by Carnegie's declarant, particularly when the declarant willfully blinds himself to the falsity of the statement. Carnegie deliberately submitted a false declaration to change the inventorship of the '610 Patent, and that was inequitable conduct.

² As discussed below, Carnegie should have submitted the known inventorship dispute to a court under 35 U.S.C. § 256 rather than proceeding through a reissue application and a false oath. That Carnegie chose to submit a false oath, rather than allowing a court to decide the issue, is further evidence of its intent to deceive.

II. STATEMENT OF FACTS

Each of the facts discussed below is established by reference to Fenix’s Amended Defenses, Dr. Frushour’s June 11, 2020, deposition transcript, the Court’s prior *Markman* Order, or the exhibits to Plaintiffs’ motion to dismiss.

A. The Claimed Subject Matter

The asserted ’189 Patent recites the identical specification, figures, and claims as the ’610 Patent. Am. Defenses ¶ 23. The only change between the two patents is the addition of Drs. Hemley, Mao, and Yan as inventors, *id.* ¶ 24, and the removal of Dr. Frushour as an inventor, *id.* ¶ 25.

The claims of the ’610 Patent, and hence the ’189 Patent, relate to HPHT processes for single crystal CVD diamond. Am. Defenses ¶ 8. As the Court has explained, “[t]he claimed method involves encapsulating the diamond in an outer body, typically of graphite, and ‘annealing’ it, i.e., applying very high temperatures and pressures within specific ranges.” *Markman* Order at 5, ECF No. 42. The purported advance of the claimed subject matter is the application of these conditions to a CVD diamond instead of a natural diamond. *Id.* Despite self-serving statements in the ’610 Patent specification, the prior art taught use of HPHT techniques to successfully anneal synthetic diamonds. Attached as Ex. 1 is an exemplary invalidity chart, taken from Fenix’s First Supplemented Preliminary Invalidity Contentions (“Fenix Supp. Invalidity Contentions”), which establishes that several prior art references disclose annealing diamonds, including CVD diamonds, by raising them to a set temperature of at least 1500° C and a pressure of at least 4.0 GPA outside the diamond stable phase as claimed by the ’189 Patent. *See, e.g.,* Ex. 1, Fenix Supp. Invalidity Contentions, Ex. C.1. Put simply, the claimed subject matter is not inventive. The ’610 Patent specification alleges that successfully annealing CVD diamonds required a new technique, but prior art not considered by the U.S.

Patent Office (“USPTO”) establishes that the claimed HPHT techniques were known or obvious to a person of ordinary skill in the art.

B. Drs. Frushour and Li Conducted the Experiments That Led to the '610 Patent

Dr. Robert Frushour is a named inventor on the '610 Patent. Am. Defenses ¶ 18. He earned a Ph.D. in high-pressure physics in 1969 from Pennsylvania State University. Ex. 2, Frushour Dep. Tr. at 16. After working as a scientist for General Electric for approximately ten years, he established a company, Phoenix Crystal Corporation (“Phoenix”), whose business was related to the high-pressure fabrication of diamonds. *Id.* at 16–21.³ Dr. Frushour has earned more than 20 patents relating to HPHT diamond technology. Am. Defenses ¶ 8.

Phoenix was a small company that had [REDACTED] employees. Ex. 2, Frushour Dep. Tr. at 19. Prior to the work that led to the '610 Patent, Dr. Frushour hired Wei Li, Ph.D., [REDACTED] *Id.* at 20. Dr. Li is also a named inventor on the '610 Patent. Am. Defenses ¶ 18.

Drs. Frushour and Li collaborated [REDACTED] The technology [REDACTED] [REDACTED] Ex. 2; Frushour Dep. Tr. at 31–32. [REDACTED] *Id.* Dr. Frushour had the original idea [REDACTED] [REDACTED] *Id.* at 33. He alone determined [REDACTED] [REDACTED] *Id.* at 36. Drs. Frushour and Li, however, [REDACTED] [REDACTED] *Id.* at 36–37, 114–15. [REDACTED] [REDACTED] *Id.* at 139–41.

³ The transcript incorrectly spells Dr. Frushour’s company as “Fenix” instead of “Phoenix.”

Dr. Frushour [REDACTED]

[REDACTED] Ex. 2; Frushour Dep. Tr. at 28–29. He and Dr. Li executed a “Combined Declaration and Power of Attorney,” which included the following oath: “I believe I am . . . an original, first and joint inventor . . . of the subject matter which is claimed and for which a patent is sought on the invention entitled: METHOD OF MAKING ENHANCED CVD DIAMOND.”

Am. Defenses ¶ 7. Dr. Li [REDACTED] *See* Ex. 2, Frushour Dep. Tr. at 113.

C. Drs. Hemley, Mao, and Yan Did Not Contribute to the Claimed Subject Matter

Phoenix maintained laboratory notebooks that memorialized the experiments conducted by Drs. Frushour and Li. Am. Defenses ¶ 12; Ex. 2, Frushour Dep. Tr. at 47–50. [REDACTED]

[REDACTED] Ex. 2, Frushour Dep. Tr. at 56–59. The notebooks also reflect that Drs. Frushour and Li applied [REDACTED]

[REDACTED] *Id.* at 65–66. [REDACTED] *Id.* at 67.

[REDACTED] *Id.* at 68.

During the prosecution of the ’610 Patent, three Carnegie employees, namely, Drs. Hemley, Mao, and Yan (“the Carnegie Scientists”), submitted a declaration contending that they alone invented the claimed subject matter. Am. Defenses ¶ 10. This declaration (the “Carnegie Scientists’ Declaration”) is attached at pages 13–15 of Pls.’ Ex. 1 and a materially identical version is attached at pages 2–4 of Pls.’ Ex. 2. If this declaration is correct, neither Dr. Frushour nor Dr. Li invented the process conditions claimed in the ’610 and ’189 Patents;

only Drs. Hemley, Mao, and Yan did. Am. Defenses ¶ 11. The Carnegie Scientists' Declaration does not provide any corroboration for the statements therein. *See* Pls.' Ex. 1 at 13–15.

Dr. Frushour did not collaborate with [REDACTED]

[REDACTED] Ex. 2, Frushour Dep. Tr. at 89–90. Moreover, the statements of fact in the Carnegie Scientists' Declaration [REDACTED]

[REDACTED] *Id.* at 92–96. [REDACTED]

[REDACTED] *Id.* at 96–97. That they did not provide these conditions is established by the fact that Phoenix had already been using these same conditions for successfully annealing natural diamonds. Am. Defenses ¶ 14. The Carnegie Scientists' Declaration therefore falsely claimed that Drs. Hemley, Mao, and Yan conveyed the claimed annealing method to Drs. Frushour or Li. *See id.*

D. Carnegie's False Reissue Oath

Phoenix originally owned the patent application that led to the '610 Patent. Am. Defenses ¶ 7. It assigned this application to GE Superabrasives, Inc., which subsequently assigned it to Diamond Innovations, Inc. *Id.* ¶¶ 16–17.

Carnegie acquired the '610 Patent from Diamond Innovations in September 2008. *Id.* ¶ 19. It subsequently filed a reissue patent application that included an oath, signed by its declarant Gary Kowalczyk, that "Robert H. Frushour is incorrectly named on the 6,811,610 patent as an inventor and Russell J. Hemley, Ho-Kwang Mao and Chih-Shiue Yan are incorrectly not named as inventors." *Id.* ¶ 20. That was a false oath. Dr. Frushour in fact was *correctly* named as an inventor. *Id.* ¶ 31. Moreover, by maintaining Dr. Li as an inventor, Carnegie's declarant essentially repudiated the Carnegie Scientists' Declaration that Dr. Li was *not* an

inventor. The USPTO would not have reissued the '610 Patent as the '189 Patent with changed inventorship but for the false oath. *Id.* ¶ 32.

E. Carnegie Knew or Had Reason to Know that Its Reissue Oath Was False

Carnegie knew that Dr. Frushour claimed to be an inventor because the Carnegie Scientists' Declaration in the application identified him as such. *See* Pls.' Ex. 1 at 14, ¶ 8. In addition, during prosecution of the original '610 Patent, the then-owner of the patent application, Diamond Innovations, Inc., informed Carnegie that the inventorship as stated was correct. *See* Am. Defenses ¶¶ 15, 34.

Carnegie nonetheless filed a separate patent application, the '171 Application, that attempted to establish Carnegie's Hemley, Mao, and Yan as sole inventors of the claimed subject matter. *See* Am. Defenses ¶ 15. The USPTO rejected Carnegie's patent application, and issued the '610 Patent in November 2004 to Diamond Innovations with Drs. Frushour and Li identified as inventors. *Id.* ¶ 18. Carnegie was thus on notice that the original inventorship was correct for approximately five years before it submitted the false oath described above.

Despite having knowledge of his claimed contribution to the invention, no one acting on Carnegie's behalf contacted Dr. Frushour to inquire whether there was a mistake in inventorship in the '610 Patent. *Id.* ¶¶ 20, 22, 25. The reissue application led to the '610 Patent being reissued as the '189 Patent. *Id.* ¶¶ 20, 22.

III. LEGAL STANDARDS

A. Motion to Strike Under Rule 12(f) / Motion to Dismiss Under Rule 12(b)(6)

Motions to strike affirmative defenses are "generally disfavored." *Inter-Am. Dev. Bank v. IIG Trade Opportunities Fund N.V.*, No. 16 CIV. 9782 (PAE), 2017 WL 6025350, at *5 (S.D.N.Y. Dec. 4, 2017). "For a court to strike an affirmative defense under Rule 12(f), '(1) there must be no question of fact that might allow the defense to succeed; (2) there must be

no substantial question of law that might allow the defense to succeed; and (3) the plaintiff must be prejudiced by the inclusion of the defense.” *Id.* (quoting *Coach, Inc. v. Kmart Corps.*, 756 F. Supp. 2d 431, 425 (S.D.N.Y. 2010)). “When evaluating the first and second prongs, ‘courts apply the same legal standard’ as a Rule 12(b)(6) motion to dismiss.” *Id.* (quoting *City of New York v. Fedex Ground Package Sys., Inc.*, 314 F.R.D. 348, 355 (S.D.N.Y. 2016)).

Under Rule 12(b)(6), a court must construe the complaint liberally, “accepting all factual allegations in the complaint as true, and drawing all reasonable inferences in the plaintiff’s favor.” *Kim v. Kimm*, 884 F.3d 98, 103 (2d Cir. 2018) (quoting *Chambers v. Time Warner, Inc.*, 282 F.3d 147, 152 (2d Cir. 2002)). A complaint must plead “enough facts to state a claim to relief that is plausible on its face.” *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007). A claim is plausible when the pleading asserts sufficient “factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged.” *Matson v. Bd. of Educ.*, 631 F.3d 57, 63 (2d Cir. 2011) (quoting *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009)). “When matters outside of the pleadings are presented in response to a 12(b)(6) motion, a district court must either ‘exclude the additional material and decide the motion on the complaint alone’ or ‘convert the motion to one for summary judgment under Fed. R. Civ. P. 56 and afford all parties the opportunity to present supporting material.’” *Friedl v. City of New York*, 210 F.3d 79, 83 (2d Cir. 2000) (quoting *Fonte v. Bd. of Managers of Continental Towers Condominium*, 848 F.2d 24, 25 (2d Cir. 1988)).

B. Pleading Inequitable Conduct

“Inequitable conduct requires a finding of both intent to deceive and materiality.” *See Cognex Corp. v. Microscan Sys., Inc.*, 990 F. Supp. 2d 408, 418 (S.D.N.Y. 2013) (Rakoff, J.) (citing *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1287 (Fed. Cir. 2011) (en banc)). “To satisfy the intent requirement after *Therasense*, a defendant must prove that an applicant

misrepresented or omitted material information ‘with the specific intent to deceive the PTO.’” *Id.* Inequitable conduct must be pleaded with particularity under Rule 9(b). *Ferguson Beauregard/Logic Controls, Inc. v. Mega Sys., LLC*, 350 F.3d 1327, 1344 (Fed. Cir. 2003). The pleading must set forth “‘the who, what, when, where, and how’ of the alleged fraud.” *Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312, 1327 (Fed. Cir. 2009) (quoting *DiLeo v. Ernst & Young*, 901 F.2d 624, 627 (7th Cir. 1990)).

Under Rule 9(b), a defendant must allege facts from which a court could infer that an individual involved with the prosecution of the patent in suit acted with the requisite scienter to deceive the USPTO. *Id.* at 1327. The pleaded facts must allow the court to “reasonably infer that a specific individual (1) knew of the withheld material information or of the falsity of the material representation, and (2) withheld or misrepresented this information with a specific intent to deceive the PTO.” *Id.* at 1328–29. “[B]ecause direct evidence of deceptive intent is rare, a district court may infer intent from indirect and circumstantial evidence.” *Cognex*, 990 F. Supp. 2d at 418 (quoting *Therasense*, 649 F.3d at 1290); see *Ohio Willow Wood Co. v. Alps S., LLC*, 813 F.3d 1350, 1358 (Fed. Cir. 2016) (finding inequitable conduct based on circumstantial evidence of an attorney’s intent to deceive the USPTO).

C. Inventorship and Correction of Inventorship

One cannot obtain a valid patent if “he did not himself invent the subject matter sought to be patented.” 35 U.S.C. § 102(f) (2006). This provision requires that a patent accurately name the correct inventors of a claimed invention. In other words, “a valid patent requires correct inventorship.” *In re VerHoef*, 888 F.3d 1362, 1365 (Fed. Cir. 2018), *as amended* (May 7, 2018).

A joint inventor is one who (1) contributed in some significant manner to the conception or reduction to practice of the invention, (2) made a contribution to the claimed invention that is not insignificant in quality, when that contribution is measured against the dimension of the full

invention, and (3) did more than merely explain to the real inventors well-known concepts and/or the current state of the art. *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1351 (Fed. Cir. 1998).

Relevant to the facts of this case, the patent statutes provide two ways in which inventorship may be corrected. First, district courts may order the correction of patent inventorship by the USPTO “on notice and hearing of all parties concerned.” 35 U.S.C. § 256(b); *Dana-Farber Cancer Inst., Inc. v. Ono Pharm. Co.*, No. 2019-2050, 2020 WL 3966975, at *4 (Fed. Cir. July 14, 2020). Second, in some circumstances, the owner of a patent may correct inventorship through a reissue application. *A. F. Stoddard & Co. v. Dann*, 564 F.2d 556, 564 (D.C. Cir. 1977); *see also In re Bennett*, 766 F.2d 524, 527 (Fed. Cir. 1985). In the case of a reissue correction, there is no excuse “for less than the careful determination of true inventorship required prior to filing” and “[t]he PTO has both the right and duty to assure itself, in each case, of the presence of innocent error, without deceptive intention, before permitting substitution of an inventor’s name.” *Stoddard*, 564 F.2d at 565 n.10.

IV. ARGUMENT

Plaintiffs assert that Fenix’s pleading allegedly imposes “phantom” duties, Pls.’ Mem. at 16–19, and fails to adequately plead facts supporting an intent to deceive, *id.* at 19–25. Neither assertion is correct. Fenix’s well-pleaded facts more than support its allegation that Dr. Frushour contributed to the claimed invention and that Carnegie’s declarants intended to deceive the USPTO to change inventorship through false statements.

A. A Patent Owner’s Intentional Omission of a True Inventor (Such as Dr. Frushour) Constitutes Inequitable Conduct

The Federal Circuit has held that intentional misconduct in connection with inventorship determinations constitutes inequitable conduct. In *Frank’s Casing*, for example, the intentional omission of an inventor, like Dr. Frushour here, constituted inequitable conduct. 292 F.3d at

1376. Similarly, in *Advanced Magnetic Closures, Inc. v. Rome Fasteners Corp.*, 607 F.3d 817, 828 (Fed. Cir. 2010), a patent owner committed inequitable conduct by intentionally omitting the correct inventor. *Id.* (“We have held that when named inventors deliberately conceal a true inventor’s involvement, the applicants have committed inequitable conduct and the patent is unenforceable even as to an innocent co-inventor.”) And, in *PerSeptive Biosystems, Inc. v. Pharmacia Biotech, Inc.*, 225 F.3d 1315, 1321 (Fed. Cir. 2000), the court found that “intentional falsehoods and omissions” relating to inventorship constituted inequitable conduct. These cases establish that an intentional falsehood, made for the purpose of omitting a proper inventor, will result in a patent being held unenforceable due to inequitable conduct.

B. Fenix Adequately and Specifically Pleaded that Carnegie Procured the ’189 Patent Through a False Oath

A party pleading inequitable conduct must allege “the who, what, when, where, and how of the alleged fraud.” *Exergen*, 575 F.3d at 1327. Fenix’s pleading more than satisfies this standard. It alleges that Carnegie’s declarant Gary Kowalczyk (“who”) intentionally submitted a false statement regarding inventorship (“what”) during prosecution of the reissue application (“when”) to the USPTO (“where”), which deceptive statement the USPTO accepted in reissuing the ’610 Patent as the ’189 Patent without Dr. Frushour as an inventor and with Drs. Hemley, Mao, and Yan as inventors (“how”).⁴ The pleading is adequate under Rule 9(b).

1. Dr. Frushour Contributed to the Claimed Invention

Plaintiffs recognize that their motion succeeds or fails based on the “key premise” of whether “the original inventorship on the ’610 Patent was correct.” Pls.’ Mem at 19. If the

⁴ Plaintiffs argue that Fenix did not adequately plead “who” committed inequitable conduct, Pls.’ Mem. at 23, but the Amended Defenses specifically identify Carnegie’s then Director of Administration and Finance, Gary Kowalczyk, as the person who submitted the false declaration. See Am. Defenses ¶¶ 30–31. Plaintiffs are not in the dark with respect to the charges here.

original inventorship is correct, the entire reissue application is fraudulent. *See* Am. Defenses ¶¶ 47–48. The USPTO would not have reissued the patent with the change in inventors but for untruthful statements regarding inventorship. Plaintiffs challenge the “factual underpinning” of the assertion that Dr. Frushour contributed to the claimed subject matter, Pls.’ Mem. at 20, but the facts as pleaded more than support the allegation that Dr. Frushour is an inventor.

Fenix’s Amended Defenses allege, among other things, that Dr. Frushour: (1) declared under oath during the prosecution of the original ’610 Patent that he invented the claimed subject matter, Am. Defenses ¶ 7; (2) is “an inventor on at least 20 United States patents related to high-pressure/high-temperature diamond technology,” *id.* ¶ 8; (3) testified under oath during his deposition that he invented the subject matter, *id.* ¶ 12; (4) was determined to be an inventor by a patent attorney, *id.* ¶¶ 15, 34; and (5) was issued the ’610 Patent by the USPTO with him and Dr. Li as inventors, *id.* ¶ 18.

This last point, that the USPTO issued the ’610 Patent with Drs. Frushour and Li as inventors, itself has particular significance: “The inventors as named in an issued patent are presumed to be correct.” *Hess v. Advanced Cardiovascular Sys., Inc.*, 106 F.3d 976, 980 (Fed. Cir. 1997) (quoting *Amax Fly Ash Corp. v. United States*, 514 F.2d 1041, 1047 (1975)). Thus, a party alleging misjoinder or non-joinder of inventors, such as Carnegie, ordinarily must meet a heavy burden of proving its case by clear and convincing evidence, and it also must provide evidence to corroborate the alleged joint inventor's conception. *See Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1461 (Fed. Cir. 1998) (holding that “an alleged co-inventor must supply evidence to corroborate his testimony” of conception). Under the law, the starting point here is that Dr. Frushour *is* an inventor.

Also, as established by his deposition testimony, which Plaintiffs cite throughout their motion, Dr. Frushour: (6) had a Ph.D. in high-pressure physics at the relevant time, Ex. 2,

Frushour Dep. Tr. at 16; (7) [REDACTED]
 [REDACTED], *id.* at 16–21; (8) hired [REDACTED]
 [REDACTED] *id.* at 20; (9) collaborated on the
 experiments [REDACTED], *id.* at 50, 114–15; (10) had the original idea [REDACTED]
 [REDACTED] *id.* at 33; and (11) wrote [REDACTED]
 [REDACTED] *id.* at 28–29.

Given these facts, Dr. Frushour unquestionably contributed to the claimed subject matter.

The unsubstantiated Carnegie Scientists’ Declaration (made by Drs. Hemley, Mao, and Yan) is the only statement in the record that stands against Dr. Frushour’s corroborated invention testimony. *See* Pls.’ Ex. 1 at 13–15. In that declaration, the Carnegie Scientists falsely allege that they *alone* (not Dr. Frushour and not Dr. Li) originated the claimed annealing method. *Id.* ¶ 8. That statement, however, concedes that “[w]e have no pertinent knowledge of Robert H. Frushour who is listed as an inventor” in the application that led to the ’610 Patent. *Id.* The putative inventors Drs. Hemley, Mao, and Yan thus admitted in their own declaration that they cannot refute Dr. Frushour’s contribution to the claimed subject matter because they lack the relevant knowledge to make such a claim. In any event, the USPTO *rejected* the assertions of the Carnegie Scientists when it allowed the original ’610 Patent to issue with Drs. Frushour and Li as sole inventors. *See* Am. Defenses ¶ 18.

In addition, the declaration submitted by the Carnegie Scientists is factually incorrect. By stating under oath that they *alone* came up with the annealing conditions, Pls.’ Ex. 1 at 14–15 ¶¶ 6–8, Drs. Hemley, Mao, and Yan necessarily excluded even Dr. Li as an inventor, *see* Am. Defenses ¶ 11. However, Carnegie later recanted this claim when it conceded through its declarant, Gary Kowalczyk, that Dr. Li actually is an inventor. *See id.* ¶¶ 20, 24–26. There is no

way to square this circle. If Dr. Li is an inventor, which is what Carnegie subsequently admitted, the declaration by Carnegie's Scientists is false. Carnegie torpedoed the credibility of its own scientists by admitting that they too submitted a false statement regarding inventorship.

Plaintiffs' motion nonetheless suggests that Dr. Frushour is lying. In a lengthy paragraph, Carnegie argues that Dr. Frushour did not know about "Carnegie's . . . annealing activity" and that he "cannot speak to the timing of Carnegie's invention." Pls.' Mem. at 20. This irrelevant argument in no way undercuts Dr. Frushour's contribution to the claimed subject matter. Drs. Frushour and Li actually designed and ran the annealing experiments that led to the '610 Patent. This work is corroborated by contemporaneous notebooks that Dr. Frushour maintained and by the original patent application itself. *See* Am. Defenses ¶ 12. Whatever Carnegie's Scientists may have independently done (or not) with respect to annealing technologies has no bearing on what Dr. Frushour actually did. The Carnegie Scientists may believe that they also "invented" the claimed subject matter, but that belief does not and cannot negate Dr. Frushour's documented work.

The law presumes that the original inventors, Drs. Frushour and Li, are correct. *See Hess*, 106 F.3d at 980. Dr. Frushour's testimony and corroborating documents also establish this fact. At minimum, the allegations that "[t]here was no mistake in the identification of Frushour and Li as inventors of the '610 Patent," Am. Defenses ¶ 22, and that "Frushour was a co-inventor of the subject matter claimed in the '189 Patent," *id.* ¶ 31, are well-pleaded and should be accepted as fact for purposes of this motion.

2. Carnegie, Through Its Declarant Gary Kowalczyk, Submitted a Materially False Oath Regarding Inventorship

Mr. Kowalczyk's statement under oath that "Robert H. Frushour is incorrectly named on the 6,811,610 patent as an inventor" is false. Am. Defenses ¶ 31. Moreover, "[b]ut for the false

representations to the Patent Office in the Kowalczyk Declaration that Frushour was not an inventor of the subject matter claimed in the '610 Patent, the Patent Office would not have reissued it as the '189 Patent.” *Id.* ¶ 32. The false oath was therefore material.

Plaintiffs do not dispute the materiality of the oath. They do not, for example, argue that the USPTO would have reissued the '610 Patent with the inventorship changes in the absence of the false oath. The Federal Circuit has repeatedly held “there is no room to argue that submission of false affidavits is not material.” *GS Cleantech Corp. v. Adkins Energy LLC*, 951 F.3d 1310, 1330 (Fed. Cir. 2020) (quoting *Rohm & Haas Co. v. Crystal Chem. Co.*, 722 F.2d 1556, 1571 (Fed. Cir. 1983)); *see also Therasense*, 649 F.3d at 1292 (“When the patentee has engaged in affirmative acts of egregious misconduct, such as the filing of an unmistakably false affidavit, the misconduct is material.”).

3. Carnegie Intended to Deceive the USPTO Through Its False Oath

Fenix alleges that Mr. Kowalczyk’s oath was “a knowingly false statement, or at best a willfully blind statement, intended to deceive the Patent Office and to deprive them of material knowledge that Kowalczyk knew or should have known undermined his claim.” Am. Defenses ¶ 20. It further alleges that “Carnegie and Kowalczyk specifically intended to deceive the Patent Office to falsely obtain recognition in the scientific community for its scientists.” *Id.* ¶ 28. Carnegie and Kowalczyk therefore acted with an intent to deceive the Patent Office by falsely alleging the mistake in inventorship. *See id.* These allegations adequately support Fenix’s pleading of intent to deceive. *See Cognex*, 990 F. Supp. 2d at 420.

Fenix does not just generally aver intent, however. Its pleading provides a concrete factual basis upon which intent to deceive is the single most reasonable inference. First, as explained above, Carnegie, its declarant Gary Kowalczyk, and the Carnegie Scientists, all knew that Dr. Frushour claimed to have invented the subject matter at issue. He had already signed an

oath to that effect. In addition, an attorney for the then-patent owner, Diamond Innovations, expressly advised Carnegie that the original inventorship was correct. *See* Am. Defenses ¶¶ 15, 34. Despite this knowledge, Carnegie and its declarant completely avoided contact with Dr. Frushour. Carnegie failed to investigate, confirm, or corroborate his contribution to the claimed subject matter. *See id.* ¶¶ 20, 22, 25. Carnegie and those acting in concert with it, including, at a minimum Gary Kowalczyk, either knew or willfully blinded themselves to facts that would have completely contradicted the reissue oath correcting inventorship. Carnegie cannot claim that it acted in good faith in view of its failure to reasonably investigate Dr. Frushour’s contribution to the invention.

In attacking Fenix’s pleading, Plaintiffs spend much of their brief arguing that Carnegie had no “obligation” to contact Dr. Frushour under the “applicable rules of practice and regulatory provisions.” Pls.’ Mem. at 1, 9, 16–17, 22. This argument entirely misses the point. Carnegie’s declarant, Mr. Kowalczyk, had an independent obligation to be truthful when he made Carnegie’s statement under 18 U.S.C. § 1001. He did not discharge his duty to act with candor by willfully ignoring Dr. Frushour’s contribution.

4. Carnegie’s “Correction” of Inventorship Through a Reissue Application, Instead of a Section 256 Proceeding, Further Establishes Its Intent to Deceive

The patent statutes provide two paths to correct the inventorship for issued patents. Section 251, the reissue statute, allows a patent owner to reissue a patent with new inventorship under certain circumstances. In the seminal case addressing this point, the Court of Appeals for the District of Columbia allowed correction through reissue specifically because “the requested substitution of names would on this record harm no one.” *Stoddard*, 564 F.2d at 564. The court further noted “[t]he inadvertence and innocent error is here undisputed.” *Id.* at n.10. Alternatively, and when there is a dispute involving inventorship, the proper procedure is to file

a lawsuit under 35 U.S.C. § 256: “This section provides a cause of action to interested parties to have the inventorship of a patent changed to reflect the true inventors of the subject matter claimed in the patent.” *Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1471 (Fed. Cir. 1997). That Carnegie chose to reissue the ’610 Patent, instead of initiating a Section 256 action, is further evidence of its intent to deceive.

Carnegie *knew* that Dr. Frushour claimed to be an inventor. He submitted an oath to this effect and Carnegie had been informed that the original inventorship was correct. *See* Am. Defenses ¶¶ 7, 15, 34. Plaintiffs recognize that an inventorship dispute existed both during the examination of the ’610 Patent *and* during the subsequent examination of Carnegie’s failed attempt to patent the identical subject matter. *See* Pls.’ Mem. at 17 n.6 (“The inventorship issue persisted.”). Incredibly, Plaintiffs state “[t]here is nothing surprising about this disagreement” and that “[t]he inventorship disagreement went both ways—the Carnegie Scientists wholeheartedly believed they were the proper inventors.” *Id.* at 21. In view of its knowledge of this dispute, however, Carnegie should have “corrected” the inventorship, if at all, through a lawsuit under Section 256. That is how disputes are settled. In a Section 256 proceeding, the scientists from Phoenix (Drs. Frushour and Li) and those from Carnegie (Drs. Hemley, Mao, and Yan) would have had a full and fair opportunity to present their respective proofs of invention for resolution by a court.

Carnegie short-circuited this dispute resolution process by filing a reissue application with a false oath. Mr. Kowalczyk simply declared, as a matter of fact, that “Robert H. Frushour is incorrectly named on the 6,811,610 patent as an inventor.” *See* Am. Defenses ¶ 20. Through that one statement, Carnegie unlawfully deprived Dr. Frushour of his dignity, reputation, and legacy. Carnegie had no right to cancel Dr. Frushour as an inventor when, in fact, he contributed

to the invention. The USPTO had no choice but to accept Mr. Kowalczyk's *ex parte* false statement because no one representing Dr. Frushour had an opportunity to speak on his behalf.

Carnegie attempts to defend its decision to change inventorship by fiat because it ultimately acquired the '610 Patent. It argues, "[a]s owner of the patent property interest, the assignee can act as it deems proper to protect its investment." *See* Pls.' Mem. at 17. Plaintiffs repeatedly cite to a manual of patent office procedure as authorizing the patent owner to "file a reissue to change the inventorship to one which the assignee believes to be correct, even though an inventor might disagree," as support for its argument that it had an unfettered right to change inventorship in any way it sought fit. *Id.* at 6, 12, 16–18, 21, and 24 (citing MPEP (2008) § 1412.04). Carnegie even asserts that "Carnegie's belief is the pertinent one" when deciding inventorship. *Id.* at 24. In Carnegie's world, the facts and truth of inventorship do not matter as long as the owner of the patent makes the determination. According to this logic, Carnegie could have named Marilyn Monroe as an inventor simply because it owned the patent. This is not the law.⁵ Carnegie did not have a unilateral right to determine inventorship, and it particularly did not have a license to submit a false statement under oath. Nothing in the patent statutes, regulations, or MPEP immunized Carnegie's false statement of fact that Dr. Frushour had been incorrectly named as an inventor. The entire examination process requires the honesty and candor of the applicant. That is why the applicant, Carnegie, had to file an oath attesting to facts.

⁵ Plaintiffs incorrectly suggest that there is "no mechanism" under which the USPTO could challenge an assignee's determination of inventorship. Pls.' Mem at 18. Contrary to this argument, the USPTO has previously refused to reissue a patent when it became aware of misconduct regarding declarations of inventorship. *See Ex parte Hipkins*, No. 90-2250, 1991 WL 326582, at *5 (B.P.A.I. Aug. 7, 1991). If Carnegie had fully and honestly disclosed the facts relating to inventorship, the USPTO had discretion to reject the reissue application: "The PTO has both the right and duty to assure itself, in each case, of the presence of innocent error, without deceptive intention, before permitting substitution of an inventor's name." *Stoddard*, 564 F.2d at 565 n.10.

Submission of a false declaration under 18 U.S.C. § 1001 to a governmental agency is a potential crime. Indeed, the declaration signed by Mr. Kowalczyk included an acknowledgement that “willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C 1001.” Pls.’ Ex. 3 at 7. Mr. Kowalczyk also acknowledged “willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this declaration is directed.” *Id.* The statement that Dr. Frushour was not an inventor was false. And, Carnegie knew that this false statement jeopardized its patent; Mr. Kowalczyk’s declaration expressly acknowledged this risk.

Nor can Carnegie claim that it acted in good faith because it did not know of the facts relating to Dr. Frushour’s contribution to the claimed invention. Under 18 U.S.C. § 1001, a party cannot “consciously avoid” learning facts. *See United States v. Walker*, 191 F.3d 326, 337 (2d Cir. 1999) (affirming an attorney’s conviction under 18 U.S.C. § 1001 where the attorney “deliberately remained ignorant” of false immigration applications); *United States v. Sarantos*, 455 F.2d 877, 880–81 (2d Cir. 1972) (construing “knowingly” in Section 1001 to include “wil[l]ful blindness to the existence of a fact”); *United States v. Egenberg*, 441 F.2d 441, 444 (2d Cir. 1971) (finding that Section 1001 is violated if “the defendant acted ‘with reckless disregard of whether the statement . . . was true’” or “with a conscious purpose to avoid learning the truth”). Here, Carnegie knew that Dr. Frushour claimed to be an inventor and it knew that an attorney had previously determined that Dr. Frushour *was* an inventor. Carnegie therefore had an obligation under 18 U.S.C. § 1001 to get its facts correct. At minimum, it had an obligation to contact Dr. Frushour prior to making the egregiously wrong statement that he did not contribute to the invention. Carnegie’s argument that it had “[n]o obligation to contact Frushour before [it] sought reissue,” Pls.’ Mem. at 16, turns the law on its head. Because Dr. Frushour *is* an inventor,

and because Carnegie could have learned this fact with a simple phone call, it absolutely had an obligation to contact him. *See Brasseler, U.S.A. I., L.P. v. Stryker Sales Corp.*, 267 F.3d 1370, 1383 (Fed. Cir. 2001) (finding intent to deceive based on a “studied refusal to timely investigate” material information). It also had an obligation to not make a false statement regarding his contribution.

Inventorship was a hotly contested issue between Carnegie and the prior owners of the ’610 Patent. Carnegie therefore should have submitted this dispute to a court for resolution under Section 256 rather than filing a reissue application with a false oath under Section 251. The reissue route was certainly more expeditious because Carnegie did not have to litigate and win a lawsuit, but that approach had its own risk. Carnegie gambled the enforceability of the reissued patent on the disputed fact that Dr. Frushour was not an inventor. If that turned out to be false, and it is false, the patent is unenforceable due to inequitable conduct. To be sure, the USPTO allowed Carnegie to “correct” inventorship even when disputed, *see* MPEP (2008) § 1412.04, but this procedure served only to give Carnegie enough rope to hang itself. By proceeding with a false reissue oath, Carnegie intended to deceive, and did deceive, the USPTO into wrongly deleting Dr. Frushour as an inventor.

C. Fenix Adequately Pleaded that Drs. Hemley, Mao, and Yan Committed Inequitable Conduction in Connection with Their Declaration

The Carnegie scientists, Drs. Hemley, Mao, and Yan, submitted a false declaration during prosecution of the application that led to the ’610 Patent and during the prosecution of a separate application, the ’171 Application, that falsely claimed credit for the work done by Drs. Frushour and Li. That declaration renders the ’189 Patent unenforceable due to inequitable conduct. *See Nilssen v. Osram Sylvania, Inc.*, 504 F.3d 1223, 1230 (Fed. Cir. 2007) (“[I]nequitable conduct with respect to one or more patents in a family can infect related applications . . .”).

1. The Carnegie Scientists' Declaration Was Materially False

The declaration of Drs. Hemley, Mao, and Yan asserted that they alone originated the annealing process claimed in the '610 Patent. *See* Pls.' Ex. 1 at 13–15; Pls.' Ex. 2 at 2–4. That declaration was false. In particular, the Carnegie Scientists falsely claimed credit for the work done by Drs. Frushour and Li. *See* Am. Defenses ¶¶ 10–14. As discussed in Section II(B) above, Dr. Frushour had determined the annealing conditions claimed in the original '610 Patent without any contact whatsoever with the Carnegie Scientists. [REDACTED]

[REDACTED] Ex. 2, Frushour Dep. Tr. at 36, 139–41.

Through the reissue oath, Carnegie confirmed the falsity of the Carnegie Scientists' Declaration. By maintaining Dr. Li as an inventor, Carnegie admitted that he (at least) contributed to the invention, which is contrary to the statements in the declaration that Hemley, Mao, and Yan alone originated the claimed annealing steps. In addition, Dr. Li could not have provided any credible information that Dr. Frushour was not an inventor since it would have directly contradicted Li's own declaration submitted under oath to the USPTO on May 22, 2002. *See* Am. Defenses ¶ 20. The false statement regarding inventorship, *see id.* ¶ 14, was material information. *See GS Cleantech*, 951 F.3d at 1330 (“[T]here is no room to argue that submission of false affidavits is not material.”) (quoting *Rohm*, 722 F.2d at 1571).

2. Carnegie Submitted the False Declaration with an Intent to Deceive

Carnegie filed its own patent application, the '171 Application, that claimed the identical subject matter as that in the '610 Patent, and it relied upon the Carnegie Scientists' Declaration to support its fraudulent claim that the Carnegie scientists alone invented the annealing method at issue. *See* Am. Defenses ¶ 11. It filed same declaration in the '610 Patent application. Through that declaration, Carnegie and the Carnegie scientists intended to deceive the USPTO into

determining that Hemley, Mao, and Yan invented the subject matter of the '610 Patent, and to thereby obtain recognition in the scientific community. *See id.* ¶¶ 27–28. There is no “innocent” explanation for the submission of this false oath. Fenix’s pleading of inequitable conduct more than satisfies the specificity Rule 9(b) because it identifies Carnegie’s agent, Gary Kowalczyk, and Drs. Hemley, Mao, and Yan as responsible for the act of submitting a false declaration during the '171 Application. *Id.* ¶ 27. This adequately pleads the “who, what, when, where, and how of the alleged fraud.” *See Exergen Corp.*, 575 F.3d at 1327.

D. Fenix Adequately Pleaded, in the Alternative, that Dr. Li Committed Inequitable Conduct in the Application that Led to the '610 Patent

Dr. Frushour credibly testified in his deposition that he designed and ran the experiments that led to the '610 Patent. When asked to describe how he felt after learning that Carnegie had removed him as an inventor, he testified, [REDACTED] Ex. 2, Frushour Dep. Tr. at 98. There was no mistake with the original inventorship on the '610 Patent, and it was wrong for Carnegie to say that Dr. Frushour deserved no credit for his own work.

Carnegie and its co-Plaintiff nonetheless steadfastly assert that Dr. Frushour did not contribute to the claimed subject matter. Pls.’ Mem. at 19–20. There is no way to reconcile this assertion with several statements under oath to the contrary. As summarized in Fenix’s pleading, “[w]hichever way one looks at the situation, the '189 Reissue Patent is unenforceable due to inequitable conduct. Either Frushour is an inventor or he is not. If he is not an inventor, Li falsely stated that he was when he signed the original joint Declaration.” Am. Defenses ¶ 47.

Dr. Li can be the only possible source of information for Carnegie to prevail on its assertion that Dr. Frushour did *not* contribute to the claimed subject matter because Drs. Hemley, Mao, and Yan admit that they had “no pertinent knowledge of Robert H. Frushour who is listed as an inventor.” *See* Pls.’ Ex. 1 at 15 ¶ 8; Pls.’ Ex. 2 at 4 ¶ 8. However, Carnegie’s reissue oath

also conceded that Dr. Li contributed to the invention, and the '189 Patent lists him as an inventor. To prevail on a theory that Dr. Li contributed to the invention, *but Dr. Frushour did not*, necessarily requires Dr. Li to have acted dishonestly in at least two ways.

First, if the declaration of Drs. Hemley, Mao, and Yan dated July 12, 2004, is to be believed, then Dr. Li knew but deliberately chose not to disclose to the USPTO that Drs. Hemley, Mao, and Yan were co-inventors of the claimed subject matter. *See* Am. Defenses ¶¶ 41–42. Second, if Carnegie's declaration through Mr. Kowalczyk is accepted as true, Dr. Li also submitted a false oath that Dr. Frushour contributed to the invention when he did not. *Id.* Fenix had therefore pleaded in the alternative that Dr. Li committed inequitable conduct through his original false statement that he and Dr. Frushour alone invented the claimed subject matter.

The Court ultimately will determine inventorship based on the proofs presented by the parties. Regardless of this determination, however, "someone deliberately lied to the Patent Office, and that lie was material to patentability." *Id.* ¶ 48. The '189 Patent is therefore unenforceable due to inequitable conduct.

V. CONCLUSION

For the foregoing reasons, Fenix's Amended Defenses adequately plead inequitable conduct, and the Court should deny Plaintiffs' motion to dismiss.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on July 21, 2020, I electronically filed the foregoing with the Clerk of Court using the CM/ECF system, which will send notification of such filing to the following:

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